

Grand Canyon

National Park Service
U.S. Department of the Interior

Grand Canyon National Park
Arizona



Colorado River

Tamarisk Management and Tributary Restoration



Tamarisk growing near a water source

Tamarisk, also known as salt cedar, is an aggressive, non- native shrub or tree. Tamarisk, introduced to the U.S. in the 19th century as an erosion control agent, subsequently spread throughout the West, causing major changes to natural environments. Tamarisk reached the Grand Canyon area during the late 1920s and early 1930s, becoming a dominant riparian zone species along the Colorado River in 1963 following completion of Glen Canyon Dam. Once established in an area, it typically spreads and persists.

Why is tamarisk undesirable?

Although people and wildlife species may utilize this plant for shelter, food, or nesting habitat, tamarisk threatens the park's native ecosystems. A mature tree can produce over 250 million seeds, which are dispersed by air and water. These prolific trees inhibit the growth of native vegetation, displace native animal species, and can increase fire frequency. National Park Service policies call for managing non- native species "if control is prudent and feasible, and the exotic

species interferes with natural processes and the perpetuation of natural features, native species, or natural habitats." Tamarisk in side canyons and tributaries of the Colorado River meets these criteria. The Tamarisk Management and Tributary Restoration project seeks to restore more natural conditions, prevent further loss or degradation of the existing native flora and fauna, and to protect the park's riparian areas, with are some of the nation's last intact examples of these ecosystems.

Project history

An Environmental Assessment/ Assessment of Effect evaluated the impacts to natural, cultural and wilderness resources. The beneficial and/or adverse impacts of this project were determined to be of minor to moderate intensity and of short- term and long- term duration. The approved action (the environmentally preferred alternative) includes the control of tamarisk in side canyons, tributaries, developed areas, and springs above the

pre- dam water level of the Colorado River. Tamarisk is controlled through a combination of mechanical, chemical, and cultural (i.e. seeding) methods including manual removal, Garlon lance injection, hack and squirt method, cut stump method, basal bark application, and native plant restoration. The method selected is specific to each site and is determined by the restoration biologist or project leader.

Project update

The first phase of the project, supported by the Arizona Water Protection Fund, the Colorado River Fund, and the Grand Canyon National Park Foundation, includes work in 63 tributaries. The work is being completed through a partnership between the National Park Service and the Grand Canyon Wildlands Council.

Work was initiated in October 2002. To date, crews have completed work in 68 project areas. As you spend time in the canyon this summer, you may notice fewer tamarisk trees in some of the side canyons—a good sign!

Crews controlled more than 56000 tamarisk trees during the first five trips. The majority, 36117 seedlings, were hand pulled. However, 4043 mature trees and 9797 saplings were treated, removing a tremendous seed source from project areas.

A long-term monitoring system that includes vegetation transects and fixed photo points was installed prior to project implementation. Monitoring will be ongoing over the next 5-10 years. Park management will evaluate the project results following the completion of Phase I in the spring of 2004, and will keep the public informed about results and future management actions.

Upcoming work

Beginning in January 2004, work crews will be backpacking to Hermit, Monument, South Bass & 75 Mile Canyon to remove tamarisk. There will also be several work trips in Bright Angel Canyon (Phantom Ranch) during February and March. From March 3-24, crews will complete work in more than 20 side canyons, accessed from the river. All Phase I control work should be completed by the spring of 2004.

For a complete list of the project areas in each phase, refer to the Environmental Assessment/Assessment of Effect posted on the park's webpage:
www.nps.gov/grca/compliance/

If you would like additional information about this project, please contact the park's Inner Canyon Vegetation Program Manager and project coordinator at:
Lori_Makarick@nps.gov

Special thanks



The tamarisk management project is extremely labor intensive and time consuming. Enormous progress has been made over the last few months largely due to the hard work of volunteers. More than 5000 hours of volunteer time have been donated to this project to date. We thank all of the individual volunteers for making this project a success.